

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) A radiation-emitting semiconductor device comprising:
a reflective layer or interface; and
a multilayer structure comprising:

an active, radiation-generating layer;

a first main area coupled to the reflective layer or interface; and

a second main area remote from the first main area for coupling out the radiation generated in the active, radiation-generating layer,

wherein the multilayer structure is an epitaxial layer structure, the semiconductor device is free of a deposition substrate of the multilayer structure, a region of the multilayer structure that adjoins the second main area of the multilayer structure is patterned one- or two-dimensionally to form convex elevations, and a height (h1) of the elevations is at least as large as a height (h2) of an unpatterned region of the multilayer structure that is between the active, radiation-generating layer and the elevations.

2. (Canceled).

3. (Previously presented) The semiconductor device as claimed in claim 1, wherein the elevations have the form of truncated pyramids or truncated cones or a trapezoidal cross-sectional form.

4. (Previously presented) The semiconductor device as claimed in claim 1, wherein the elevations have the form of cones or a triangular cross-sectional form.

5. (Previously presented) The semiconductor device as claimed in claim 1, wherein the elevations have the form of sphere segments or a circle segment cross-sectional form.

6. (Previously presented) The semiconductor device as claimed in claim 1, wherein the elevations have an aperture angle (α) of between approximately 30° and approximately 70° .

7. (Previously Presented) The semiconductor device as claimed in claim 6, wherein the elevations have an aperture angle (α) of between approximately 40° and approximately 50° .

8. (Canceled)

9. (Previously presented) The semiconductor device as claimed in claim 1, wherein the height (h_1) of the elevations is approximately twice as large as the height (h_2) of the plane region of the multilayer structure between the active, radiation-generating layer and the elevations.

10. (Previously presented) The semiconductor device as claimed in claim 1, wherein a grid dimension (d) of the elevations is at most approximately five times as large as the height (h_1) of the elevations.

11. (Previously Presented) The semiconductor device as claimed in claim 10, wherein the grid dimension (d) of the elevations is at most approximately three times as large as the height (h_1) of the elevations.

12. (Previously Presented) The semiconductor device as claimed in claim 1, wherein the reflective layer or interface coupled to the first main area of the multilayer structure has a reflectivity of at least 70%.

13. (Previously Presented) The semiconductor device as claimed in claim 1, wherein the reflective layer or interface coupled to the first main area of the multilayer structure has a reflectivity of at least 85%.

14. (Previously Presented) The semiconductor device as claimed claim 1, wherein the multilayer structure is applied by its first main area via the reflective layer on a carrier substrate or a carrier substrate forms the reflective interface with the first main area.

15. (Previously Presented) The semiconductor device as claimed in claim 14, wherein the reflective layer or the carrier substrate also serves as a contact area of the semiconductor device.

16. (Previously Presented) The semiconductor device as claimed claim 1, wherein a conductive, transparent layer is applied on the second main area of the multilayer structure.

17. (Previously Presented) The semiconductor device as claimed in claim 1, wherein a transparent protective layer is applied on the second main area of the multilayer structure.

18. (Currently Amended) A radiation-emitting semiconductor device comprising:
a substantially planar reflective layer or interface, the reflective layer being applied on a carrier substrate or the reflective interface being formed by a carrier substrate; and
a multilayer structure comprising:
an active, radiation-generating layer;
a first main surface coupled to the reflective layer or interface; and
a second main surface remote from the first main area for coupling out the radiation generated in the active, radiation-generating layer;
a transparent layer disposed between the first main surface of the multilayer structure and the reflective layer or interface, said transparent layer being patterned one- or two-dimensionally,
wherein the multilayer structure is an epitaxial layer structure, and the semiconductor device is free of a deposition substrate of the multilayer structure; and

wherein the transparent layer comprises convex elevations, the convex elevations tapering in a direction away from the first main surface of the multilayer structure of to the reflective layer or interface.

19. (Previously Presented) The semiconductor device as claimed in claim 18, wherein the transparent layer is conductive.

20. (Canceled).

21. (Previously presented) The semiconductor device as claimed in claim 18, wherein the elevations have the form of truncated pyramids or truncated cones or a trapezoidal cross-sectional form.

22. (Previously presented) The semiconductor device as claimed in claim 18, wherein the elevations have an aperture angle (α) of between approximately 30° and approximately 70° .

23. (Previously presented) The semiconductor device as claimed in claim 18, wherein the elevations have an aperture angle (α) of between approximately 40° and approximately 50° .

24. (Previously presented) The semiconductor device as claimed in claim 18, wherein the height (h1) of the elevations is at least as large as the height (h2) of a plane region of the multilayer structure between the active, radiation-generating layer and the elevations.

25. (Previously Presented) The semiconductor device as claimed in claim 24, wherein the height (h1) of the elevations is approximately twice as large as the height (h2) of the plane region of the multilayer structure between the active, radiation-generating layer and the elevations.

26. (Previously presented) The semiconductor device as claimed in claim 18, a grid dimension (d) of the elevations is at most approximately five times as large as the height (h1) of the elevations.

27. (Previously Presented) The semiconductor device as claimed in claim 26, wherein the grid dimension (d) of the elevations is at most approximately three times as large as the height (h1) of the elevations.

28. (Previously Presented) The semiconductor device as claimed in claim 18, wherein the layer or interface coupled to the first main area of the multilayer structure has a reflectivity of at least 70%.

29. (Previously Presented) The semiconductor device as claimed in claim 28, wherein the layer or interface coupled to the first main area of the multilayer structure has a reflectivity of at least 85%.

30. (Canceled).

31. (Previously Presented) The semiconductor device as claimed in claim 30, wherein the reflective layer or the carrier substrate also serves as a contact area of the semiconductor device.

32. (Previously Presented) The semiconductor device as claimed in claim 18, wherein a transparent protective layer is applied on the second main area of the multilayer structure.

33. (Previously Presented) The semiconductor device as claimed in claim 1, wherein the multilayer structure is based on GaN.

34. (Previously Presented) The semiconductor device as claimed in claim 18, wherein the multilayer structure is based on GaN.

35. (Canceled).

36. (Previously presented) The semiconductor device as claimed in claim 18,

wherein, due to the convex elevations, the transparent layer comprises first and second regions, the first regions having a thickness greater than a thickness of the second regions.

37. (Previously Presented) The semiconductor device as claimed in claim 18, wherein the active, radiation-generating layer is a continuous layer, and the transparent layer comprises a plurality of elevations that overlap with the active, radiation-generating layer.